3. PIPE CASING

3.1. WATER MAIN CASING

Steel casing shall be a minimum of 0.50 inch thick and asphalt coating of 0.05 inch minimum thickness shall cover both inside and outside of the pipe. Sections of the pipe shall be connected by welding. Welds shall be coated with Kopper's Bitumastic or approved equal heavy bodied coal tar pitch protective coating. Major coating damage shall be cause for rejection.

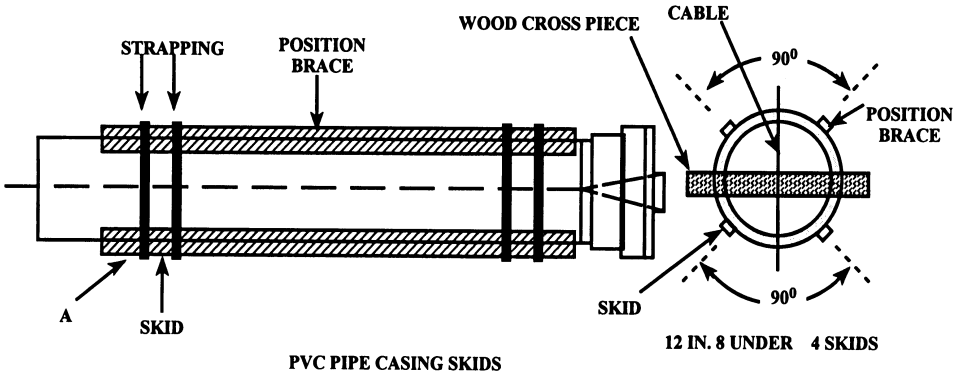
Casing size shall be as follows unless otherwise listed on drawings:

Water Main Size	Casing Diameter Required For PVC Main	Ductile Iron Main
6"	12"	15"
8"	16"	18"
10"	18"	21"
12"	20"	24"
16"	26"	34"
20"	30"	36"
24"	33"	40"

Pipe casing shall be installed true to alignment and grade. Casing shall be installed by boring and/or jacking into place. All bores on or across highway and railroad rights-of-way shall be dry bores without the use of hydraulic flushing.

A 3" PVC Schedule 40 pipe shall be laid under all new streets that do not have water lines on each side of the road. The pipe shall be lined up with each property line on the opposite side of the road from the water line. The pipe shall be between 18" to 24" in depth and shall extend outward 12" past the outer edge of the compacted sub-base and shall be capped on each in.

3.2. PVC CASING DIAGRAM



4. BACKFLOW PREVENTERS

4.1. POLICY

For a new service installation, an air gap or a reduced pressure backflow preventer must be installed for:

A. All services 2" and larger.
B. All industrial customers.

Backflow preventer installations must have prior approval of the Department of Waterworks.

All reduced pressure backflow preventers must be tested at least once a year at the customer's expense, by a tester/repairman that is approved by the Waterworks.

It shall be the duty of the customer/user at any premise where backflow preventers are installed, to have certified inspections and operational tests made at least once a year. In those instances where the Waterworks may deem necessary, more frequent certified inspections and operational tests may be required.

These inspections and tests shall be at the expense of the customer/user and shall be performed by the device manufacturer's representative or by a certified tester approved by the Waterworks.

The customer/user shall arrange for the inspection and tests and notify the Waterworks at least 24 hours in advance so that a Waterworks representative may witness the tests, if it is so desired. The backflow preventer shall be repaired, overhauled or replaced immediately at the expense of the customer/user whenever said device is found to be defective.

Copies of all records including tests, repairs and overhauls shall be submitted to the Waterworks. Original copies shall be kept on file by the customer/user and shall be made available to the Waterworks upon request.

Effective: 8-11-1981

Revised: 10-01-1982

4.2. APPROVED TYPES

APPROVED TYPES

SIZE	APPROVED MODELS	CONNECTIONS
3/4"	WATTS 909	THREADED UNION
	FEBCO 860	THREADED UNION
1"	WATTS 909	THREADED UNION
	FEBCO 860	THREADED UNION
2"	WATTS 909	THREADED UNION
	FEBCO 860	THREADED UNION
3"	HERSEY 6 CM	FLANGED
4"	HERSEY 6 CM	FLANGED
6"	HERSEY 6 CM	FLANGED

Backflow preventers shall have bronze bodies and bronze or stainless steel trim.

Backflow preventers 8" and larger shall be Watts 909 or Hersey Model 6 CM and must be epoxy coated.

A meter must be installed upstream before a backflow preventer.

Backflow preventer installations must have prior approval of the Waterworks Department.

Revised: 7-1-96

4.3. INSTALLATION

REDUCED PRESSURE BACKFLOW PREVENTER INSTALLATION REQUIREMENTS

The backflow preventer must be installed as close to the meter as possible. A filter screen is required, but if a screen has been installed before the meter, an additional screen is not required.

Each backflow preventer must have an inlet and an outlet valve. All in-line equipment should be flanged or installed with union connections for easy removal during repairs or testing. Test cocks are required.

A bypass installation of any type is prohibited.

The backflow preventer shall be installed with the following clearances:

At least 12" above the ground and 12" above the flood level whichever is the highest.

Not more than 30" above the ground or floor.

Not less than 24" clearance on the side the access door or discharge valve is located. Not less than 12" clearance on the opposite side.

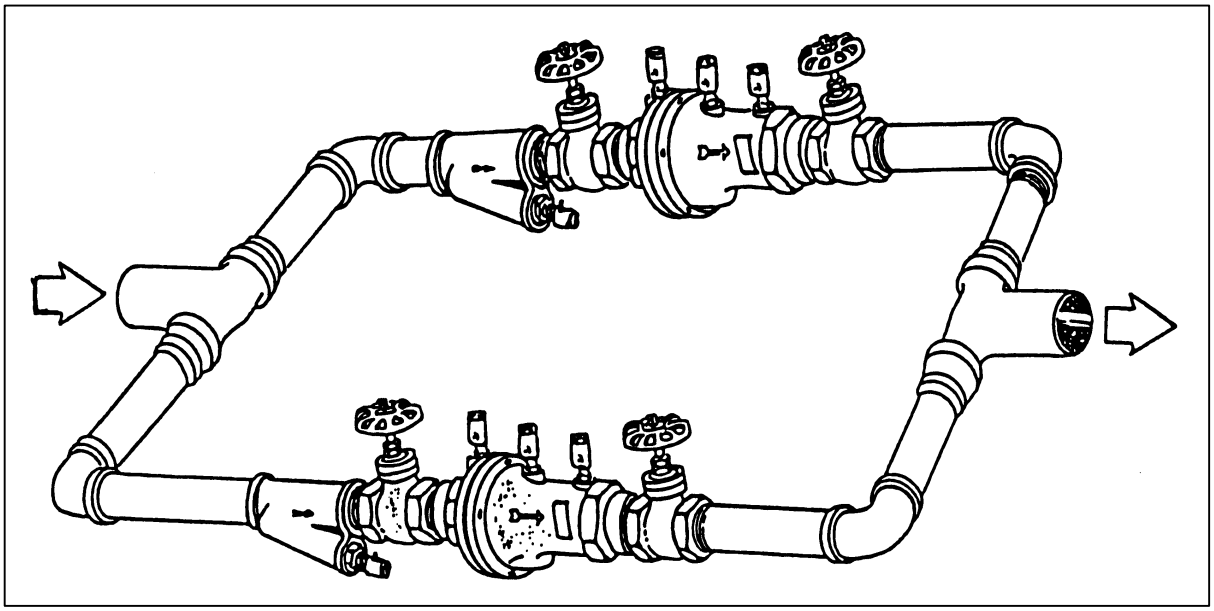
Adequate overhead space to remove the unit for repairs.

The installation should be in an open area that would not be flooded by a full flow relief valve discharge. All equipment should be protected from freezing.

A parallel arrangement is recommended (see illustration).

Revised: 11-10-1982

4.3.1. Diagram



REDUCED PRESSURE BACKFLOW PREVENTER INSTALLATION REQUIREMENTS

PARALLEL ARRANGEMENT OF BACKFLOW PREVENTERS